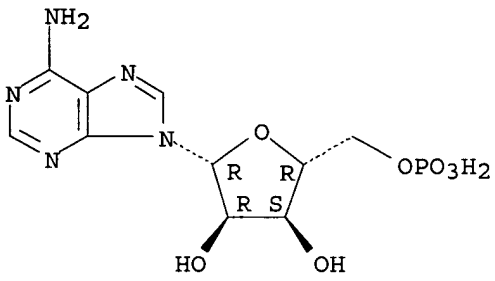
L10 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2003 ACS on STN
RN 24937-83-5 REGISTRY
CN 5'-Adenylic acid, homopolymer (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 5'-Adenylic acid, polymers (8CI)
OTHER NAMES:
CN **Adenylic acid polymer**
CN Poly(5'-adenylic acid)
CN Poly(A)
CN Poly(adenylic acid)
CN Poly(rA)
CN Poly(riboadenylic acid)
CN Polyadenosine
CN Polyadenylate
FS STEREOSEARCH
DR 162756-83-4, 103106-41-8, 103106-44-1, 104714-92-3, 104714-93-4, 67583-86-2, 75433-15-7, 75433-16-8, 75433-18-0, 75433-21-5, 75433-22-6, 75433-24-8, 75433-26-0, 75433-27-1
MF (C10 H14 N5 O7 P)x
CI PMS, COM
PCT Polynucleotide
LC STN Files: AGRICOLA, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CANCERLIT, CAPLUS, CHEMCATS, CIN, CSCHEM, DDFU, DRUGU, EMBASE, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, NIOSHTIC, PROMT, TOXCENTER, USPAT2, USPATFULL

CM 1

CRN 61-19-8
CMF C10 H14 N5 O7 P

Absolute stereochemistry.



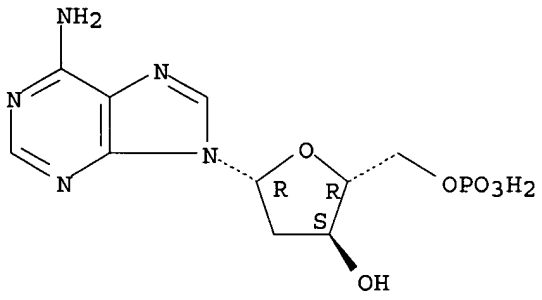
3465 REFERENCES IN FILE CA (1907 TO DATE)
339 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
3469 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L11 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2003 ACS on STN
RN 25191-20-2 REGISTRY
CN 5'-Adenylic acid, 2'-deoxy-, homopolymer (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Adenosine, 2'-deoxy-, 5'-(dihydrogen phosphate), polymers (8CI)
OTHER NAMES:
CN (dA)n
CN **Deoxyadenylic acid polymer**
CN Oligo(dA)
CN Poly dAp
CN Poly(2'-deoxyadenylic acid)
CN Poly(dA)
CN Poly(deoxyadenylic acid)
CN Polydeoxyriboadenylic acid
FS STEREOSEARCH
DR 122292-94-8, 121321-74-2, 68714-78-3, 75764-55-5, 87578-11-8, 30172-97-5, 100357-47-9
MF (C10 H14 N5 O6 P)x
CI PMS, COM
PCT Polyamine, Polyamine formed, Polyether, Polyether formed
LC STN Files: AGRICOLA, ANABSTR, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CANCERLIT, CAPLUS, CHEMCATS, CSCHEM, EMBASE, IFICDB, IFIPAT, IFIUDB, MEDLINE, PROMT, RTECS*, TOXCENTER, USPATFULL
(*File contains numerically searchable property data)

CM 1

CRN 653-63-4
CMF C10 H14 N5 O6 P

Absolute stereochemistry. Rotation (+).

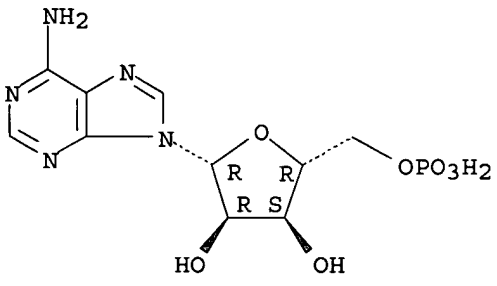


617 REFERENCES IN FILE CA (1907 TO DATE)
54 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
619 REFERENCES IN FILE CAPLUS (1907 TO DATE)

YOU HAVE REQUESTED DATA FROM 1 ANSWERS - CONTINUE? Y/(N):y
THE ESTIMATED COST FOR THIS REQUEST IS 5.63 U.S. DOLLARS
DO YOU WANT TO CONTINUE WITH THIS REQUEST? (Y)/N:y

L7 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2003 ACS on STN
RN **61-19-8** REGISTRY
CN 5'-Adenylic acid (8CI, 9CI) (CA INDEX NAME)
OTHER NAMES:
CN 5'-AMP
CN Adenosine 5'-(dihydrogen phosphate)
CN Adenosine 5'-monophosphate
CN Adenosine 5'-phosphate
CN Adenosine 5'-phosphoric acid
CN Adenosine monophosphate
CN Adenosine phosphate
CN Adenosine-5'-monophosphoric acid
CN Adenosine-5-monophosphoric acid
CN Adenovite
CN Adenylic acid
CN AMP
CN AMP (nucleotide)
CN Cardiomone
CN Lycedan
CN My-B-Den
CN NSC 20264
CN Phosaden
CN Phosphaden
CN Phosphentaside
FS STEREOSEARCH
DR 162756-82-3, 53624-78-5, 67583-85-1, 47286-65-7, 47287-97-8
MF C10 H14 N5 O7 P
CI COM
LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CABA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS, CHEMLIST, CIN, CSCHEM, DDFU, DETHERM*, DRUGU, EMBASE, GMELIN*, HODOC*, HSDB*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*, MSDS-OHS, NAPRALERT, NIOSHTIC, PIRA, PROMT, RTECS*, SPECINFO, TOXCENTER, USAN, USPAT2, USPATFULL
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**, WHO
(**Enter CHEMLIST File for up-to-date regulatory information)

Absolute stereochemistry.

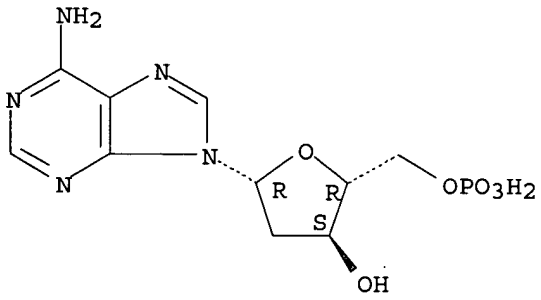


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

16118 REFERENCES IN FILE CA (1907 TO DATE)
380 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
16128 REFERENCES IN FILE CAPLUS (1907 TO DATE)
15 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

L8 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2003 ACS on STN
RN **653-63-4** REGISTRY
CN 5'-Adenylic acid, 2'-deoxy- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Adenosine, 2'-deoxy-, 5'-(dihydrogen phosphate) (6CI, 8CI)
OTHER NAMES:
CN 2'-Deoxy-5'-adenylic acid
CN 2'-Deoxy-5'-AMP
CN 2'-Deoxy-AMP
CN 2'-Deoxyadenosine 5'-monophosphate
CN 2'-Deoxyadenosine 5'-phosphate
CN 2'-Deoxyadenosine monophosphate
CN 2'-Deoxyadenylic acid
CN dAMP
CN Deoxy-AMP
CN Deoxyadenosine 5'-monophosphate
CN Deoxyadenosine 5'-phosphate
CN Deoxyadenosine monophosphate
CN Deoxyadenylic acid
CN NSC 77680
CN NSC 82625
CN PdA
FS STEREOSEARCH
DR 75688-15-2, 87578-08-3, 29576-96-3
MF C10 H14 N5 O6 P
CI COM
LC STN Files: AGRICOLA, ANABSTR, BEILSTEIN*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CEN, CHEMCATS, CHEMLIST, CIN, CSCHEM, DDFU, DRUGU, EMBASE, IFICDB, IFIPAT, IFIUDB, MEDLINE, TOXCENTER, USPATFULL
(*File contains numerically searchable property data)
Other Sources: EINECS**
(**Enter CHEMLIST File for up-to-date regulatory information)

Absolute stereochemistry. Rotation (+).



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1073 REFERENCES IN FILE CA (1907 TO DATE)
56 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
1076 REFERENCES IN FILE CAPLUS (1907 TO DATE)
81 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

=> duplicate remove l16
DUPLICATE PREFERENCE IS 'BIOSIS, MEDLINE, EMBASE'
KEEP DUPLICATES FROM MORE THAN ONE FILE? Y/(N):n
PROCESSING COMPLETED FOR L16
L17 3 DUPLICATE REMOVE L16 (0 DUPLICATES REMOVED)

=> d 1-3 bib ab

L17 ANSWER 1 OF 3 EMBASE COPYRIGHT 2003 ELSEVIER INC. ALL RIGHTS RESERVED. on STN
AN 97215921 EMBASE
DN 1997215921
TI HIV-1 protease inhibits its homologous **reverse transcriptase** by protein-protein interaction.
AU Bottcher M.; Grosse F.
CS F. Grosse, Institut Molekulare Biotechnologie, Abteilung Biochemie, Posffach 100 813, D-07708 Jena, Germany. fgrosse@imb-jena.de
SO Nucleic Acids Research, (1997) 25/9 (1709-1714).
Refs: 30
ISSN: 0305-1048 CODEN: NARHAD
CY United Kingdom
DT Journal; Article
FS 004 Microbiology
029 Clinical Biochemistry
LA English
SL English
AB The reading frame of the HIV-1 pol gene, encoding protease (PR) and **reverse transcriptase** (RT), including RNase H as well as integrase, was fused to the bacterial .beta.-galactosidase gene and overexpressed in Escherichia coli cells. The resulting fusion protein was cleaved autocatalytically leading to PR, RT and integrase. Immunoprecipitations of bacterial crude extracts with anti-RT antibodies precipitated both RT and PR. Co-precipitation of PR and RT was also observed with anti-PR antibodies, strongly suggesting a physical interaction between fully processed RT and PR within the bacterial cell. Physical interactions were confirmed with purified components by means of an **ELISA** assay. Furthermore, purified PR inhibited the DNA synthesis activity of purified RT, while its RNase H activity remained unaffected. The type of inhibition was uncompetitive with respect to poly(rA).cntdot.oligo(dT); the inhibition constant was 50-100 nM. A possible physiological significance of this type of interaction is discussed.

L17 ANSWER 2 OF 3 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
AN 1994:19586 BIOSIS
DN PREV199497032586
TI Poly A-linked colorimetric microtiter plate assay for HIV **reverse transcriptase**.
AU Suzuki, Kazuo; Craddock, Barbara P.; Okamoto, Naoaki; Kano, Tokio; Steigbigel, Roy T. (1)
CS (1) Div. Infectious Dis., State Univ. NY Stony Brook, Stony Brook, NY 11794-8153 USA
SO Journal of Virological Methods, (1993) Vol. 44, No. 2-3, pp. 189-198. ISSN: 0166-0934.
DT Article
LA English
AB An assay for detection of the **reverse transcriptase** (RT) of the human immunodeficiency virus (HIV) was developed using poly A linked to microtiter plate with colorimetric detection of incorporated biotin deoxyuridine triphosphate (biotin-dUTP). During the RT reaction, biotin-dUTP was incorporated into oligodeoxythymidylic acid (oligo-dT) which had been hybridized with poly A. At the detection step, horseradish peroxidase conjugated streptavidin was added, followed by the reaction of a colorimetric substrate for this enzyme. This method was contrasted with

the two standard isotopic RT assays. There was excellent correlation between the colorimetric RT assay and each of two isotopic RT assays for both detection and quantification of avian myoblastosis virus **reverse transcriptase** (AMV-RT) and of HIV RT in human lymphocytes infected in vitro with HIV-1. The total assay required for performing the colorimetric assay, including the RT reaction, was 40 min.

L17 ANSWER 3 OF 3 MEDLINE on STN
AN 93084712 MEDLINE
DN 93084712 PubMed ID: 1280640
TI A non-radioisotopic **reverse transcriptase** assay using biotin-11-deoxyuridinetriphosphate on primer-immobilized microtiter plates.
AU Urabe T; Sano K; Tanno M; Mizoguchi J; Otani M; Lee M H; Takasaki T; Kusakabe H; Imagawa D T; Nakai M
CS Department of Microbiology, Osaka Medical College, Japan.
SO JOURNAL OF VIROLOGICAL METHODS, (1992 Nov) 40 (2) 145-54.
Journal code: 8005839. ISSN: 0166-0934.
CY Netherlands
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals; AIDS
EM 199301
ED Entered STN: 19930129
Last Updated on STN: 19970203
Entered Medline: 19930107
AB We developed a non-radioisotopic (non-RI) **reverse transcriptase** assay (RTA). The **reverse transcriptase** (RT) incorporates biotin-11-deoxyuridine-triphosphate (bio-dUTP) using a poly(rA) template hybridized with oligo(dT) primer that is immobilized on the surface of a 96-well microtiter plate. This assay is thus semi-automated by adapting it to an **ELISA** testing format. The incorporation of bio-dUTP was enhanced by adding cold dTTP to the reaction mixture, optimally in a molar ratio 4:1 (dTTP:bio-dUTP). This non-RI RTA is more sensitive than the conventional RI assay for the detection of purified Rous-associated virus 2 (RAV-2) and of human immunodeficiency virus type 1 (HIV-1) lysate. Because of its simple procedure, higher sensitivity and non-use of RI materials, the assay can be utilized not only for virological studies but also for routine safety screening of biological products for retroviral contamination.

=>

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=> s reverse transcriptase
L12     113909 REVERSE TRANSCRIPTASE

=> s l12 and 24937-83-5
L13        338 L12 AND 24937-83-5

=> s l12 and 25191-20-2
L14          3 L12 AND 25191-20-2

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DUPLICATE PREFERENCE IS 'BIOSIS, MEDLINE'
KEEP DUPLICATES FROM MORE THAN ONE FILE?  Y/(N):n
PROCESSING COMPLETED FOR L14
L15          3 DUPLICATE REMOVE L14 (0 DUPLICATES REMOVED)

=> d 1-3 bib ab

L15  ANSWER 1 OF 3     MEDLINE on STN
AN   96033984     MEDLINE
DN   96033984   PubMed ID: 7589477
TI   DNA synthesis primed by mononucleotides (de novo synthesis) catalyzed by
     HIV-1 reverse transcriptase: tRNA(Lys,3) activation.
AU   Zakharova O D; Tarrago-Litvak L; Fournier M; Litvak S; Nevinsky G A
CS   Institute of Bioorganic Chemistry, Siberian Division of the Academy of
     Sciences of Russia, Novosibirsk, Russian Federation.
SO   FEBS LETTERS, (1995 Oct 16) 373 (3) 255-8.
     Journal code: 0155157. ISSN: 0014-5793.
CY   Netherlands
DT   Journal; Article; (JOURNAL ARTICLE)
LA   English
FS   Priority Journals; AIDS
EM   199511
ED   Entered STN: 19960124
     Last Updated on STN: 19960124
     Entered Medline: 19951130
AB   HIV-1 RT is able to catalyze DNA synthesis starting from mononucleotides
     used both as minimal primers and as nucleotide substrates (de novo
     synthesis) in the presence of a complementary template. The rate of this
     process is rather slow when compared to the polymerization primed by an
     oligonucleotide. The addition of tRNA(Lys,3) to this system increased the
     de novo synthesis rate by 2-fold. Addition of low concentrations of
     agents able to modify protein conformation, such as urea,
     dimethylsulfoxide and Triton X-100, can activate the de novo synthesis by
     a factor 2 to 5. A dramatic synergy is observed in the presence of the
     three compounds since the stimulating effect of tRNA increases 10-15
     times. These results suggest that compounds activating RT are able to
     induce a conformational change of the enzyme which results in a higher
     specific activity. Primer tRNA seems to play an important role in HIV-1
     RT modification(s) leading to a polymerase having a higher affinity for
     the primer or the dTTP, but not for the template. The specificity of RT
     for the template is not influenced by changes in the kinetics or in the
     thermodynamic parameters of the polymerization reaction.

L15  ANSWER 2 OF 3     MEDLINE on STN
AN   89174728     MEDLINE
DN   89174728   PubMed ID: 2466838
TI   Human immunodeficiency virus 1 reverse transcriptase.
     Template binding, processivity, strand displacement synthesis, and
     template switching.
AU   Huber H E; McCoy J M; Seehra J S; Richardson C C
CS   Department of Biological Chemistry and Molecular Pharmacology, Harvard
     Medical School, Boston, Massachusetts 02115.
NC   AI-06045 (NIAID)
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SO JOURNAL OF BIOLOGICAL CHEMISTRY, (1989 Mar 15) 264 (8) 4669-78.
Journal code: 2985121R. ISSN: 0021-9258.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals; AIDS
EM 198904
ED Entered STN: 19900306
Last Updated on STN: 19970203
Entered Medline: 19890425
AB We have analyzed the kinetics of DNA synthesis catalyzed by **reverse transcriptase** from human immunodeficiency virus 1 (HIV-1). **Reverse transcriptase**, overproduced in Escherichia coli and purified to homogeneity, has polymerase and RNase H activity. **Reverse transcriptase** forms a stable complex with poly(rA).oligo(dT) primer-templates in the absence of Mg2+ and dTTP with an equilibrium dissociation constant of 3 nM. Synthesis from these preformed complexes can be initiated, and restricted to a single processive cycle, by the simultaneous addition of Mg2+, dTTP, and excess competitor RNA. Preformed complexes decay with a maximal half-life of 2-3 min. Synthesis on poly(rA) templates is processive with an incorporation rate of 10-15 nucleotides/s at 37 degrees C. Processivity varies widely with the template used, increasing from a few to greater than 300 nucleotides in the order: poly(dA) less than double-stranded DNA less than single-stranded DNA less than single-stranded RNA less than poly(rA). On double-stranded DNA **reverse transcriptase** catalyzes limited strand-displacement synthesis of up to 50 nucleotides. On RNA-DNA hybrids significant DNA synthesis is observed only after degradation of the RNA strand by the RNase H activity of **reverse transcriptase**. Intermolecular strand switching occurs with poly(rA) templates. At low ionic strength **reverse transcriptase** can use multiple templates with a single primer, leading to products of greater than template length. **Reverse transcriptase** and primer do not have to dissociate during the exchange of template strands, thus allowing processive DNA synthesis across template borders.

L15 ANSWER 3 OF 3 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
AN 1977:126918 BIOSIS
DN BA63:21782
TI HELA CELL DNA POLYMERASE GAMMA FURTHER PURIFICATION AND PROPERTIES OF THE ENZYME.
AU KNOPF K-W; YAMADA M; WEISSBACH A
SO BIOCHEMISTRY, (1976) 15 (20), 4540-4548.
CODEN: BICHAW. ISSN: 0006-2960.
FS BA; OLD
LA Unavailable
AB DNA polymerase .gamma. was purified over 60,000 fold from HeLa [human cervical cancer] cells which contain no detectable type C viral particles. This purified enzyme shows a specific activity of 25,000 units/mg of protein which is comparable to the known specific activity of homogeneous preparations of human .alpha. and .beta. polymerases. The isolated enzyme shows apparent MW ranging from 160,000-330,000 according to the method of analysis. The enzyme exhibits optimal activity for copying poly(A) in the presence of 50 mM KPO4 and 130 mM KCl and, under these conditions, copies poly(A) 20 times more rapidly than activated DNA. These assay conditions permit a clear distinction between the .gamma.-polymerase and DNA polymerase .beta. which is inhibited by phosphate at this concentration. A comparison of the copying of activated DNA, poly(dA) and poly(A) by DNA polymerases .alpha.,.beta. and .gamma. under optimal assay conditions for each enzyme is presented. Studies with synthetic and natural nucleic acid templates also show the .gamma.-polymerase to behave differently than the **reverse transcriptases** of avian myeloblastosis virus of Rauscher leukemia virus.